
U.S. Department
of Commerce
Seattle, Washington

Volume 97
Number 4
October 1999

Fishery Bulletin

Contents

Articles

- 738–745** **Aceves-Medina, Gerardo, Enrique A. González, and Ricardo J. Saldierna**
Larval development of *Symphurus williamsi*
(Cynoglossidae: Pleuronectiformes) from the Gulf of California
- 746–757** **Arreguín-Sanchez, Francisco, and Tony J. Pitcher**
Catchability estimates and their application to the red grouper
(*Epinephelus morio*) fishery of the Campeche Bank, Mexico
- 758–775** **Buckel, Jeffrey A., Michael J. Fogarty, and David O. Conover**
Foraging habits of bluefish, *Pomatomus saltatrix*, on the
U.S. east coast continental shelf
- 776–785** **Buckel, Jeffrey A., Michael J. Fogarty, and David O. Conover**
Mutual prey of fish and humans: a comparison of biomass consumed
by bluefish, *Pomatomus saltatrix*, with that harvested by fisheries
- 786–801** **Friedlander, Alan M., George W. Boehlert, Michael E. Field, Janet E. Mason, James V. Gardner, and Peter Dartnell**
Sidescan-sonar mapping of benthic trawl marks on the shelf and
slope off Eureka, California
- 802–811** **Gabr, Howaida R., Roger T. Hanlon, Salah G. El-Etreby, and Mahmoud H. Hanafy**
Reproductive versus somatic tissue growth during the life cycle of
the cuttlefish *Sepia pharaonis* Ehrenberg, 1831
- 812–827** **Gillanders, Bronwyn M., Douglas J. Ferrell, and Neil L. Andrew**
Aging methods for yellowtail kingfish, *Seriola lalandi*, and results
from age- and size-based growth models
- 828–841** **Hood, Peter B., and Andrea K. Johnson**
Age, growth, mortality, and reproduction of vermilion snapper,
Rhomboplites aurorubens, from the eastern Gulf of Mexico

The National Marine Fisheries Service (NMFS) does not approve, recommend, or endorse any proprietary product or proprietary material mentioned in this publication. No reference shall be made to NMFS, or to this publication furnished by NMFS, in any advertising or sales promotion which would indicate or imply that NMFS approves, recommends, or endorses any proprietary product or proprietary material mentioned herein, or which has as its purpose an intent to cause directly or indirectly the advertised product to be used or purchased because of this NMFS publication.

- 842–861 Hunt, Joseph J., Wayne T. Stobo, and Frank Almeida**
Movement of Atlantic cod, *Gadus morhua*, tagged in the Gulf of Maine area
- 861–872 Ibañez Aguirre, Ana L., Manuel Gallardo-Cabello, and Xavier Chiappa Carrara**
Growth analysis of striped mullet, *Mugil cephalus*, and white mullet, *M. curema* (Pisces: Mugilidae), in the Gulf of Mexico
- 873–883 Kaimmer, Stephen M.**
Direct observations on the hooking behavior of Pacific halibut, *Hippoglossus stenolepis*
- 884–890 Lankford, Thomas E., Jr., Timothy E. Targett, and Patrick M. Gaffney**
Mitochondrial DNA analysis of population structure in the Atlantic croaker, *Micropogonias undulatus* (Perciformes: Sciaenidae)
- 891–899 Massutí, Enric, Beatriz Morales-Nin, and Joan Moranta**
Otolith microstructure, age, and growth patterns of dolphin, *Coryphaena hippurus*, in the western Mediterranean
- 900–919 Matkin, Craig O., Graeme Ellis, Peter Olesiuk, and Eva Saulitis**
Association patterns and inferred genealogies of resident killer whales, *Orcinus orca*, in Prince William Sound, Alaska
- 920–943 Moser, H. Geoffrey, and Tilman Pommeranz**
Vertical distribution of eggs and larvae of northern anchovy, *Engraulis mordax*, and of the larvae of associated fishes at two sites in the Southern California Bight
- 944–953 Natanson, Lisa J., John G. Casey, Nancy E. Kohler, and Tristram Colket IV**
Growth of the tiger shark, *Galeocerdo cuvier*, in the western North Atlantic based on tag returns and length frequencies; and a note on the effects of tagging
- 954–961 Petrik, Rachel, Phillip S. Levin, Gregory W. Stunz, and John Malone**
Recruitment of Atlantic croaker, *Micropogonias undulatus*: Do postsettlement processes disrupt or reinforce initial patterns of settlement?
- 962–977 Robards, Martin D., John F. Piatt, Arthur B. Kettle, and Alisa A. Abookire**
Temporal and geographic variation in fish communities of lower Cook Inlet, Alaska
- 978–986 Simpfendorfer, Colin A.**
Mortality estimates and demographic analysis for the Australian sharpnose shark, *Rhizoprionodon taylori*, from northern Australia
- 987–998 Smale, Malcolm J., and André J. J. Goosen**
Reproduction and feeding of spotted gully shark, *Triakis megalopterus*, off the Eastern Cape, South Africa
- 999–1016 Stoner, Allan W., Allen J. Bejda, John P. Manderson, Beth A. Phelan, Linda L. Stehlik, and Jeffrey P. Pessutti**
Behavior of winter flounder, *Pseudopleuronectes americanus*, during the reproductive season: laboratory and field observations on spawning, feeding, and locomotion
- 1017–1024 Urbán R., Jorge, Carlos Alvarez F., Mario Salinas Z., Jeff Jacobsen, Kenneth C. Balcomb III, Armando Jaramillo L., Paloma Ladrón de Guevara P., and Anelio Aguayo L.**
Population size of humpback whale, *Megaptera novaeangliae*, in waters off the Pacific coast of Mexico
- 1025–1030 Vecchione, Michael**
Extraordinary abundance of squid paralarvae in the tropical eastern Pacific Ocean during El Niño of 1987
- 1031–1042 Watson, William**
Early life history stages of the whitetip flyingfish, *Cheilopogon xenopterus* (Gilbert, 1890) (Pisces: Exocoetidae)

Notes

1043–1046 Garlich-Miller, Joel L., and Douglas M. Burn

Estimating the harvest of Pacific walrus, *Odobenus rosmarus divergens*, in Alaska

1047–1057 Yang, Mei-Sun

The trophic role of Atka mackerel, *Pleurogrammus monopterygius*, in the Aleutian Islands area

1058–1065 Zeller, Dirk C.

Ultrasonic telemetry: its application to coral reef fisheries research

1066 *Announcement*

1068 *Index*

1079 *Subscription form*